Lecture #2

NJG

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History of Word Processing

- plain text editor (show it)
  - fixed width font
  - formatting indicated by simple characters `*italic*`
- Knuth 1977 LaTeX
- 1980s early word processing *mark-up* language
- 1986 early Apple WYSIWYG
- 1990s - present growth and domination of Microsoft and Word
- problems: cumbersome, too many features, slow, proprietary

Demo of Products

- BCOR lecture notes in html, and pdf
- beamer slide show

Demo of R

- show from menu
- show from command line

Demo of RStudio

- open R studio
  - adjustment of window sizes
  - adjustment of window panes
  - fonts and screen colors
  - set up global options

File and folder names

- don't use blank spaces
- numbers OK but not at start
- general format `<YourLastName>_HW#1_21Jan2016`
- Rstudio will add file suffixes `.Rmd`

Create a new Project

- open and set things up
- create a lowly text file
- exit
- don't save Robject
- reopen by clicking on project or opening RStudio & selecting project

Create a new project on your own

- once inside open a lowly text file, save it, and exit

Creating a Markdown document

- file `.Rmd` is *rendered* to `.html` or `.pdf`
- explain spacing
- show options with the `Markdown Quick Reference`
- shortcut `<CTR><Shift>K` to render

Using LaTeX for equations

- single versus double dollar signs for equations To put it in the line $a = b + c$ looks like this. To put it on its own

  $$a = b + c$$

  look like this

Essential equation codes

- fractions $\frac{a}{b+c}$
- superscript cA^z

- subscript cA_z
- summation $\sum_{i=1}^{n} x^2$ is a little cramped in text
- summation looks nicer on full line

$$\sum_{i=1}^{n} x^2$$

Class Exercise

- create Markdown document `<YourName>_InClass_21Jan2016`
- transcribe from papers
- add a link
- add a figure
- figure out how to format this:

$$\frac{\alpha}{\beta + \sigma^2}$$